

**PRIMORDIAL GERM CELL-BASED GERM LINE PRODUCTION OF  
BIRDS**

**ABSTRACT**

5           The invention features an isolated avian gonadal cell, e.g., an ovarian cell or a  
testes cell, containing a heterologous nucleic acid as well as a method of introducing a  
nucleic acid molecule into the genome of an avian species, by contacting a population of  
isolated gonadal cells derived from a chick embryo with the nucleic acid molecule to  
yield transfected gonadal cells, and transferring the transfected gonadal cells to a  
10       fertilized avian egg